UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/401,740	09/23/99	MALHOTRA S	D/99532

IM62/0428

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EXAMINER	
SHOSHO,C	
ART UNIT	**PAPER NUMBER**
1714	34

DATE MAILED: 04/28/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/401,740	Malhotra
Examiner	**Group Art Unit**
Callie Shosho	1714

☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-20* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-20* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

It is preferred that application numbers are used in place of the attorney docket numbers on page 14, line 13, page 15, lines 2, 19, and 26, and page 16, lines 8 and 18 in order that the examiner is able to examine the referenced applications and properly determine the patentable lines of demarcation.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4, 8, 12-14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Takazawa et al. (U.S. 5,279,655).

Takazawa et al. discloses a hot melt ink having melting point of 50^0-150^0 C wherein the ink contains polystyrene, 10-20% dispersant, 10-40% colorant such as dyes, 20-30% aromatic

viscosity modifier, and 20-60% ink vehicle (col.1, lines 24-25, col.3, line 27, col.6, lines 46-50, col.7, lines 20-29, col.8, lines 19-21 and 32-33).

Although there is no explicit disclosure that the polystyrene functions as a hardening component, given that the resins are identical to those presently claimed, it is clear that polystyrene functions inherently as a hardening component.

Further, although there is no explicit disclosure of the time required to change the ink from a solid state to a liquid state, given that the reference ink and the presently claimed have almost identical melting temperatures, it is clear that the reference ink will inherently change from solid to liquid in the same amount of time as presently claimed.

In light of the above, Takazawa et al. anticipates the present claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takazawa et al. (U.S. 5,279,655) in view of Nishizaki et al. (U.S. 6,022,910).

The discussion with respect to Takazawa et al. as described in paragraph 3 above is incorporated here by reference.

The difference between Takazawa et al. and the present claimed invention is the requirement in the claims of melt viscosity.

Takazawa et al. disclose the use of viscosity modifiers, but do not explicitly disclose the melt viscosity of the ink.

Nishizaki et al., which is drawn to hot melt inks, discloses that the melt viscosity of hot melt inks must be adjusted to range from 10 cPs to 60 cPs to prevent faulty ejection and clogging of the ink jet printer heads (col.3, lines 10-19).

In light of the above, it would have been within the skill level of one of ordinary skill in the art to adjust the viscosity of the hot melt ink of Takazawa et al. to values, including those presently claimed, in order to prevent faulty ejection and clogging of the ink jet printer heads, and thereby arrive at the claimed invention.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takazawa et al. (U.S. 5,279,655) in view of Tobias et al. (U.S. 5,286,288).

The discussion with respect to Takazawa et al. as described in paragraph 3 above is incorporated here by reference.

The difference between Takazawa et al. and the present claimed invention is the requirement in the claims of conductivity.

Tobias et al., which is drawn to hot melt inks, discloses the use of conductivity agents in order to control the conductivity of the ink from 500-1500 microsiemens/cm or approximately 5.7-6.2 log(picomho/cm) which ensures that the ink has sufficient conductivity in order to be successfully ink jet printed (col.3, line 19).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to control the conductivity of the hot melt of Takazawa et al. via conductivity agents in order to produce an suitable for ink jet printing, and thereby arrive at the claimed invention.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takazawa et al. (U.S. 5,279,655) in view of Ball (U.S. 4,684,956).

The discussion with respect to Takazawa et al. as described in paragraph 3 above is incorporated here by reference.

The difference between Takazawa et al. and the present claimed invention is the requirement in the claims of the amount of polystyrene.

Takazawa et al. disclose a hot melt ink containing polystyrene, but do not explicitly disclose the amount of polystyrene present.

Ball, which is drawn to hot melt inks, discloses the use of 25-55% polystyrene in order to enhance the adhesion of the ink to substrate (col.3, lines 60-61 and 66-67 and col.3, line 58).

In light of the motivation for using specific amount of polystyrene disclosed by Ball as described above, it therefore would have been obvious to one of ordinary skill in the art to use polystyrene in this amount in the hot melt ink of Takazawa et al. in order to produce an ink with enhanced substrate adhesion, and thereby arrive at the claimed invention.

9. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takazawa et al. (U.S. 5,279,655) in view of Yaegashi et al. (U.S. 5,270,730), Wickramanayake (U.S. 5,531,816), Malhotra et al. (U.S. 5,922,117), and Schwartz et al. (U.S. 4,468,255).

The discussion with respect to Takazawa et al. as described in paragraph 3 above is incorporated here by reference.

The difference between Takazawa et al. and the present claimed invention is the requirement in the claims of specific type of viscosity modifier.

Yaegashi et al., which is drawn to hot melt inks, discloses the use of heat fusible substances such as dibenzofuran and 4-methylbiphenyl in order to produce an ink with excellent dischargeability, storability, and little blotting (col.10, lines 59 and 64 and col.11, lines 7-13).

Wickramanayake, which is drawn to ink jet inks, discloses the use of phenanthrene as a solvent for the colorant, and to prevent crust formation and nozzle clogging in the printer (col.5, lines 20-33 and 51). Although there is no disclosure of other specific types of phenanthrene, one of ordinary skill in the art would have recognized that the broad disclosure of phenanthrene encompasses the use of specific types of phenanthrene such as those presently claimed, and that the choice of these specific types of phenanthrene would have been within the bounds of routine experimentation.

Malhotra et al., which is drawn to hot melt inks, discloses the use of 1-adamantane ethanol in order to ensure that the ink has low acoustic loss in order to minimize or reduce energy consumption of the printer and to generate high quality, lightfast, and waterfast images (col.1, lines 43-48).

Schwartz et al., which is drawn to ink compositions, discloses the use of rheology modifiers such as biphenyl and biphenylene in order to reduce the viscosity of the colorant dispersion and to produce a softer and more workable ink (col.1, lines 27-29 and col.2, lines 1-2). Although there is no disclosure of other specific types of biphenyl, one of ordinary skill in the art would have recognized that the broad disclosure of biphenyl encompasses the use of specific types of biphenyl such as those presently claimed, and that the choice of these specific types of phenanthrene would have been within the bounds of routine experimentation.

In light of the motivation for using dibenzofuran, biphenyls, phenanthrene, and 1-adamantane ethanol disclosed by Yaegashi et al., Wickramanayake, Malhotra et al., and Schwartz

et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use these compounds in the hot melt ink of Takazawa et al. in order to produce a workable ink with excellent dischargeability, storeability, little blotting which minimizes energy use with regards to the printer and does not clog the printer nozzles, and thereby arrive at the claimed invention.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takazawa et al. (U.S. 5,279,655) in view of Shawcross et al. (U.S. 6,028,180) and Bruder et al. (U.S. 5,015,292).

The discussion with respect to Takazawa et al. as described in paragraph 3 above is incorporated here by reference.

The difference between Takazawa et al. and the present claimed invention is the requirement in the claims of specific type of ink vehicle.

Bruder et al., which is drawn to ink jet inks, discloses the use of solvents such as carboxamide in order to enhance waterfastness and smear resistance (col.1, lines 20-29 and col.3, line 29).

Shawcross et al., which is drawn to ink jet inks, discloses the use of solvent such as tetrahydronaphthalene (col.9, lines 37-38).

Shawcross et al. and Bruder et al. broadly disclose tetrahydronaphthalene and carboxamide, respectively. Although there are no specific examples of tetrahydronaphthalenes and carboxamides in either of these references, one of ordinary skill in the art would have

recognized that the broad disclosure of tetrahydronaphthalene and carboxamide encompasses the use of specific types of tetrahydronaphthalene and carboxamide such as those presently claimed, and that the choice of these specific types of tetrahydronaphthalene and carboxamide would have been within the bounds of routine experimentation.

In light of the motivation for using specific types of ink vehicles disclosed by Shawcross et al. and Bruder et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use these ink vehicles as the vehicle in the ink of Takazawa et al., in order to produce an ink with enhanced waterfastness and smear resistance.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takazawa et al. in view of JP06228476, Malhotra et al. (U.S. 5,876,492), Malhotra et al. (U.S. 5,931,995), Yaegashi et al. (U.S. 5,220,730), and Malhotra et al. (U.S. 5,902,390).

The discussion with respect to Takazawa et al. as described in paragraph 3 above is incorporated here by reference.

The difference between Takazawa et al. and the present claimed invention is the requirement in the claims of specific type of dispersing agent.

Pending translation of JP06228476, which is drawn to ink jet inks, it is noted that the abstract of the Japanese reference discloses the use of 2-oxazolidone in order to produce an ink with excellent humectant properties and discharge stability.

Malhotra et al. '492, which is drawn to hot melt inks, discloses the use of butyrolactone in order to control the acoustic-loss value of the ink (col.5, lines 7-9).

Malhotra et al. '995, which is drawn to hot melt inks, discloses the use of benzaldehyde and cinnamaldehyde, in order to control the acoustic-loss value of the ink (col.7, lines 1-19 and col.6, lines 60-62).

Yaegashi et al., which is drawn to hot melt inks, discloses the use of 2,3-dimethoxybenzaldehyde, diphenyl carbonate, glutaric acid, and 1,3-diphenyl-1,3-propanedione in order to produce an ink with excellent dischargeability, storability, and little blotting (col.10, lines 52, 58, and 62 and col.11, lines 7-13).

Malhotra et al. '390, which is drawn to hot melt inks, discloses the use of cyclohexanone and cyclohexanedione in order to control the acoustic-loss value of the ink (col.1, lines 37 and 42-43 and col.5, lines 7 and 13).

Malhotra et al. '492, Malhotra et al. '995, Yaegashi et al., and Malhotra et al. '390 broadly disclose butyrolactones, benzaldehydes, cinnamaldehydes, glutaric acids, cyclohexanone, and cyclohexanedione, respectively. Although there are no specific examples of these compounds in the references, one of ordinary skill in the art would have recognized that the broad disclosure of butyrolactone, benzaldehyde, cinnamaldehyde, glutaric acid, cyclohexanone, and cyclohexanedione encompasses the use of specific types of these compounds such as those presently claimed, and that the choice of these specific types would have been within the bounds of routine experimentation.

Further, Malhotra et al. '995 discloses 2-hydroxybezaldehyde, while the present claims require either 3-hydroxybezaldehyde or 4-hydroxybezaldehyde. Similarly, Yaegashi et al. discloses 2,3-dimethoxybenzaldehyde, while the present claims require 2,6-dimethoxybenzaldehyde. In each case, the only difference between the reference compounds and those presently claimed are the position of the substituents, i.e. ortho, meta, or para. However, absent any evidence of criticality, one of ordinary skill in the art would expect the hydroxybezaldehyde or dimethoxybenzaldehyde to function in the same manner regardless of the position of the substituents.

In light of the motivation for using 2-oxazolidone, butyrolactone, benzaldehyde, cinnamaldehyde, 2,3-dimethoxybenzaldehyde, diphenyl carbonate, glutaric acid, and 1,3-diphenyl-1,3-propanedione, cyclohexanone and cyclohexanedione disclosed by JP06228476, Malhotra et al. '492, Malhotra et al. '995, Yaegashi et al., and Malhotra et al. '390 as described above, it therefore would have been obvious to one of ordinary skill in the art to use compounds in the hot melt ink of Takazawa et al. in order to produce an ink with suitable acoustic-loss value, excellent humectant properties and discharge stability, and thereby arrive at the claimed invention.

12. Claims 1-5, 7-9, 13, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. (U.S. 6,045,607) in view of Takazawa et al. (U.S. 5,279,655), Ball (U.S. 4,684,956), and Fujioka (U.S. 5,397,388).

Breton et al. discloses a hot melt ink possessing melting temperature of 60^0-150^0 C, melt viscosity of less than 10 cP, acoustic-loss value of 5-40 dB/mm, haze value of 10-30 wherein the ink changes from solid to liquid in about 1-100 milliseconds (col.2, lines 12-17, 25-29, and 45, col.3, lines 18-20, col.6, lines 1-2, and col.16, lines 8-53). The ink contains colorant such as a dye, antioxidant, and UV absorber (col.2, lines 45-47). There is also disclosed an acoustic ink jet printing process (col.16, lines 8-53).

The difference between Breton et al. and the present claimed invention is the requirement in the claims of (a) styrene or terpene resin and (b) aromatic viscosity modifier.

With respect to difference (a), Takazawa et al., which is drawn to hot melt inks, discloses the use of polystyrene in order to produce a solid ink (col.8, lines 1-6 and 21).

Ball, which is drawn to hot melt inks, discloses the use of 22-55% polyterpenes and methyl styrenes in order to enhance the adhesion of the ink so the substrate (col.3, lines 58, 60-61, and 66-67).

Fujioka, which is drawn to hot melt inks, discloses the use of 0.1-48% terpene resins and cumarone-indene resins in order to provide the ink high transparency, controlled hardness, and good wear resistance (col.3, lines 51-58 and col.4, lines 23-24).

Although Takazawa et al., Ball, or Fujioka do not explicitly disclose that the styrene/terpene resins function as hardening components, given that the resins are identical to those presently claimed, it would be natural for one of ordinary skill in the art to infer that these reference styrene/terpene resins intrinsically function as hardening components.

In light of the motivation for using styrene/terpene resin disclosed by Takazawa et al., Ball, and Fujioka as described above, it therefore would have been obvious to one of ordinary skill in the art to use these resins in the hot melt ink of Breton et al. in order to produce a solid ink that has enhanced substrate adhesion, ink high transparency, controlled hardness, and good wear resistance, and thereby arrive at the claimed invention.

With respect to difference (b), Takazawa et al. discloses the use of aromatic viscosity modifiers (col.7, lines 3 and 26-27) in order to control the viscosity of the ink so that the printer nozzles are not clogged.

In light of the motivation for using viscosity modifier disclosed by Takazawa et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use viscosity modifier in the ink of Breton et al. in order to produce an ink that does not clog the printer nozzles, and thereby arrive at the claimed invention.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. in view of Takazawa et al., Ball, and Fujioka as applied to claims 1-5, 7-8, 13, and 18-20 above, and further in view of Tobias et al. (U.S. 5,286,288).

The difference between Breton et al. in view of Takazawa et al., Ball, and Fujioka and the present claimed invention is the requirement in the claims of conductivity.

Tobias et al., which is drawn to hot melt inks, discloses the use of conductivity agents in order to control the conductivity of the ink from 500-1500 microsiemens/cm or approximately

5.7-6.2 log(picomho/cm) which ensures that the ink has sufficient conductivity in order to be successfully ink jet printed (col.3, line 19).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to control the conductivity of the hot melt of Breton et al. via conductivity agents in order to produce an suitable for ink jet printing, and thereby arrive at the claimed invention.

14. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. in view of Takazawa et al., Ball, and Fujioka as applied to claims 1-5, 7-8, 13, and 18-20 above, and further in view of Yaegashi et al. (U.S. 5,270,730), Wickramanayake (U.S. 5,531,816), Malhotra et al. (U.S. 5,922,117), and Schwartz et al. (U.S. 4,468,255).

The difference between Breton et al. in view of Takazawa et al., Ball, and Fujioka and the present claimed invention is the requirement in the claims of specific type of viscosity modifier.

Yaegashi et al., which is drawn to hot melt inks, discloses the use of heat fusible substances such as dibenzofuran and 4-methylbiphenyl in order to produce an ink with excellent dischargeability, storability, and little blotting (col.10, lines 59 and 64 and col.11, lines 7-13).

Wickramanayake, which is drawn to ink jet inks, discloses the use of phenanthrene as a solvent for the colorant, and to prevent crust formation and nozzle clogging in the printer (col.5, lines 20-33 and 51). Although there is no disclosure of other specific types of phenanthrene, one of ordinary skill in the art would have recognized that the broad disclosure of phenanthrene encompasses the use of specific types of phenanthrene such as those presently claimed, and that

the choice of specific types of phenanthrene would have been within the bounds of routine experimentation.

Malhotra et al., which is drawn to hot melt inks, discloses the use of 1-adamantane ethanol in order to ensure that the ink has low acoustic loss in order to minimize or reduce energy consumption of the printer and to generate high quality, lightfast, and waterfast images (col.1, lines 43-48).

Schwartz et al., which is drawn to ink compositions, discloses the use of rheology modifiers such as biphenyl and biphenylene in order to reduce the viscosity of the colorant dispersion and to produce a softer and more workable ink (col.1, lines 27-29 and col.2, lines 1-2).Although there is no disclosure of other specific types of biphenyl, one of ordinary skill in the art would have recognized that the broad disclosure of biphenyl encompasses the use of specific types of biphenyl such as those presently claimed, and that the choice of these specific types of phenanthrene would have been within the bounds of routine experimentation.

In light of the motivation for using dibenzofuran, biphenyls, phenanthrene, and 1-adamante ethanol disclosed by Yaegashi et al., Wickramanayake, Malhotra et al., and Schwartz et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use these compounds in the hot melt ink of Breton et al. in order to produce a workable ink with excellent dischargeability, storeability, little blotting which minimizes energy use with regards to the printer and does not clog the printer nozzles, and thereby arrive at the claimed invention.

15. Claim 16-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. in view of Takazawa et al., Ball, and Fujioka as applied to claims 1-5, 7-8, 13, and 18-20 above, and further in view of JP06228476, Malhotra et al. (U.S. 5,876,492), Malhotra et al. (U.S. 5,931,995), Yaegashi et al. (U.S. 5,220,730), and Malhotra et al. (U.S. 5,902,390).

The difference between Breton et al. in view of Takazawa et al., Ball, and Fujioka and the present claimed invention is the requirement in the claims of specific type of dispersing agent.

Pending translation of JP06228476, which is drawn to ink jet inks, it is noted that the abstract of the Japanese reference discloses the use of 2-oxazolidone in order to produce an ink with excellent humectant properties and discharge stability.

Malhotra et al. '492, which is drawn to hot melt inks, discloses the use of butyrolactone in order to control the acoustic-loss value of the ink (col.5, lines 7-9).

Malhotra et al. '995, which is drawn to hot melt inks, discloses the use of benzaldehyde and cinnamaldehyde, in order to control the acoustic-loss value of the ink (col.7, lines 1-19 and col.6, lines 60-62).

Yaegashi et al., which is drawn to hot melt inks, discloses the use of 2,3-dimethoxybenzaldehyde, diphenyl carbonate, glutaric acid, and 1,3-diphenyl-1,3-propanedione in order to produce an ink with excellent dischargeability, storability, and little blotting (col.10, lines 52, 58, and 62 and col.11, lines 7-13).

Malhotra et al. '390, which is drawn to hot melt inks, discloses the use of cyclohexanone and cyclohexanedione in order to control the acoustic-loss value of the ink (col.1, lines 37 and 42-43 and col.5, lines 7 and 13).

Malhotra et al. '492, Malhotra et al. '995, Yaegashi et al., and Malhotra et al. '390 broadly disclose butyrolactones, benzaldehydes, cinnamaldehydes, glutaric acids, cyclohexanone, and cyclohexanedione, respectively. Although there are no specific examples of these compounds in the references, one of ordinary skill in the art would have recognized that the broad disclosure of butyrolactone, benzaldehydes, cinnamaldehyde, glutaric acids, cyclohexanone, and cyclohexanedione encompasses the use of specific types of these compounds such as those presently claimed, and that the choice of these specific types would have been within the bounds of routine experimentation.

Further, Malhotra et al. '995 discloses 2-hydroxybezaldehyde, while the present claims require either 3-hydroxybezaldehyde or 4-hydroxybezaldehyde. Similarly, Yaegashi et al. discloses 2,3-dimethoxybenzaldehyde, while the present claims require 2,6-dimethoxybenzaldehyde. In each case, the only difference between the reference compounds and those presently claimed are the position of the substituents, i.e. ortho, meta, or para. However, absent any evidence of criticality, one of ordinary skill in the art would expect the hydroxybezaldehyde or dimethoxybenzaldehyde to function in the same manner regardless of the position of the substituents.

In light of the motivation for using 2-oxazolidone, butyrolactone, benzaldehyde, cinnamaldehyde, 2,3-dimethoxybenzaldehyde, diphenyl carbonate, glutaric acid, and 1,3-diphenyl-1,3-propanedione, cyclohexanone and cyclohexanedione disclosed by JP06228476, Malhotra et al. '492, Malhotra et al. '995, Yaegashi et al., and Malhotra et al. '390 as described above, it therefore would have been obvious to one of ordinary skill in the art to use compounds in the hot melt ink of Takazawa et al. in order to produce an ink with suitable acoustic-loss value, excellent humectant properties and discharge stability, and thereby arrive at the claimed invention.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie Shosho whose telephone number is (703) 305-0208. The examiner can normally be reached on Mondays-Thursdays from 7:00 am to 4:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Callie Shosho

4/27/00 C. S.

Vasu Jagannathan
Supervisory Patent Examiner
Technology Center 1700